

WHAT IS CLAIMED IS:

1. A multifunction car theft alarm lock for use in a steering wheel of a transportation vehicle, comprising:

a lock unit coupled to the steering wheel;

5 a key insertable into the lock unit for releasing the coupling between the lock unit and the steering wheel;

at least one electronic sensor installed in an electronic module of the lock unit, the at least one electronic sensor being used to detect vertical and horizontal vibrations of the transportation vehicle, movement of an object
10 inside the transportation vehicle, and to output a signal of detection, wherein the electronic module not only inputs the signal of detection and outputs the signal of detection to a far end, but also inputs a signal of setting from the far end;

a function setting device used to input and indicate the signal of
15 detection from the electronic module, and set and output the signal of setting to enable/disable the at least one electronic sensor;

a power supply unit used to provide the necessary working power to the lock unit and the electronic module;

a standby power set used to provide standby power supply; and

20 a standby power circuit used to provide the standby power supply to the lock unit and the electronic module if the power supply unit fails.

2. The multifunction car theft alarm lock as claimed in claim 1, wherein the lock unit is a digital electronic lock stored with a digital ID code therein, and the key is a digital electronic key stored with a

corresponding digital ID code therein, and wherein the digital electronic key releases the coupling between the lock unit and the steering wheel if the digital ID code and the corresponding ID code match after insertion of the digital electronic key into the lock unit.

5 3. The multifunction car theft alarm lock as claimed in claim 1, wherein the lock unit is a mechanical lock, and is unlocked from the steering wheel upon insertion of the key into the lock unit.

 4. The multifunction car theft alarm lock as claimed in claim 1, wherein the electronic module comprises an infrared sensor, a vertical
10 motion sensor and a horizontal motion sensor.

 5. The multifunction car theft alarm lock as claimed in claim 1, wherein the electronic module further comprises a first microprocessor and a first memory, and the function setting device comprises a second memory; wherein the first microprocessor is used to produce a communication code
15 and to save the communication code in the first memory and the second memory, and to verify the communication code in the first memory and in the second memory upon inputting of the signal of setting so as to accept therefore.

 6. The multifunction car theft alarm lock as claimed in claim 5,
20 wherein the function setting device further comprises a second microprocessor used to calculate the distance between the electronic module and the function setting device and to indicate the distance by the function setting device therefore.

 7. The multifunction car theft alarm lock as claimed in claim 6,

wherein the function setting device further comprises a display panel for indicating the distance and the signal of detection.

8. The multifunction car theft alarm lock as claimed in claim 1, wherein the power supply unit comprises a power detector and a power alarm, and wherein the power detector is used to detect the power level of the power supply unit and to enable the power alarm if a power supply from the power supply unit is below a predetermined value.

9. The multifunction car theft alarm lock as claimed in claim 1, wherein the power supply unit, the electronic module, and the standby power circuit are installed in the lock unit.

10. A multifunction car theft alarm lock with tire pressure sensing device used in a transportation vehicle, comprising:

a lock unit coupled to a steering wheel of the transportation vehicle;

a key insertable into the lock unit for releasing the coupling between

the lock unit and the steering wheel;

a sensor module with at least one sensing function used to detect a static/motion status of the transportation vehicle and to output a signal of detection when the static/motion status of the transportation vehicle has been changed;

at least one tire pressure sensor for detecting a status of the tire pressure of the transportation vehicle and for transmitting a signal of low pressure if the pressure of one tire drops below a predetermined pressure value;

an electronic module including the sensor module installed in the

lock unit, for inputting the signal of low pressure and outputting the signal of detection and the signal of low pressure to a far end;

a setting device for inputting the signal of detection/the signal of low pressure and providing a sound and lighting effect corresponding to the signal of detection/the signal of low pressure;

a power supply unit for providing a necessary working power to the lock unit and the electronic module;

a standby power set for providing a standby power supply; and

a standby power circuit for providing the standby power supply to the lock unit and the electronic module if the power supply unit fails.

11. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 10, wherein the lock unit is a digital electronic lock stored with a digital ID code therein, and the key is a digital electronic key stored with a corresponding digital ID code; and wherein the digital electronic key disables the coupling between the lock unit and the steering wheel if the digital ID code and the corresponding ID code match after insertion of the digital electronic key into the lock unit.

12. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 10, wherein the lock unit is a mechanical lock; and wherein the key disables the coupling between the lock unit and the control device if the key and the mechanical lock match after insertion of the key into the lock unit.

13. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 10, wherein the at least one sensing function

includes an infrared sensing function, a horizontal motion sensing function, and a vertical motion sensing function.

14. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 13, wherein the horizontal motion sensing function and the vertical motion sensing function are provided by two identical electronic sensors; wherein one electronic sensor positioned horizontally provides the vertical motion sensing function to detect a vertical vibration of the transportation vehicle, and another electronic sensor positioned vertically provides a horizontal motion sensing function to detect if the door of the transportation vehicle opens.

15. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 13, wherein the sensor module comprises an infrared sensor, the infrared sensor providing an infrared sensing function to detect movement of human body in the transportation vehicle.

16. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 10, wherein the at least one tire pressure sensor is coupled to at least one air nozzle.

17. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 10, wherein the at least one tire pressure sensor is coupled to inside of at least one tire.

18. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 10, further comprising at least one transmitter, coupled to the at least one tire pressure sensor respectively, for transmitting the signal of low pressure.

19. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 10, wherein the power supply unit comprises a power detector and a power alarm, and wherein the power detector is used to detect the power level of the power supply unit and to enable the power alarm if a power supply from said power supply unit is below a predetermined value.

20. The multifunction car theft alarm lock with tire pressure sensing device as claimed in claim 10, wherein the power supply unit, the electronic module, and the standby power circuit are installed in the lock unit.

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